8. Delay Effects

Objectives

- Identify how delay is **produced currently** and how this would have been achieved **historically**
- Discuss **delay parameters**
- Identify and discuss **specific delay effects** and **identify them in your listening**

Skills Development

- Technical terms & understanding

Key Words

Analogue
Digital
Tape Head
Delay Time
Feedback
Slapback Delay
Timed Delay
Stereo Delay
Sample Delay
Multitap Delay
Reverse Delay
Doubletracking
ADT
Stompbox

8. Delay Effects

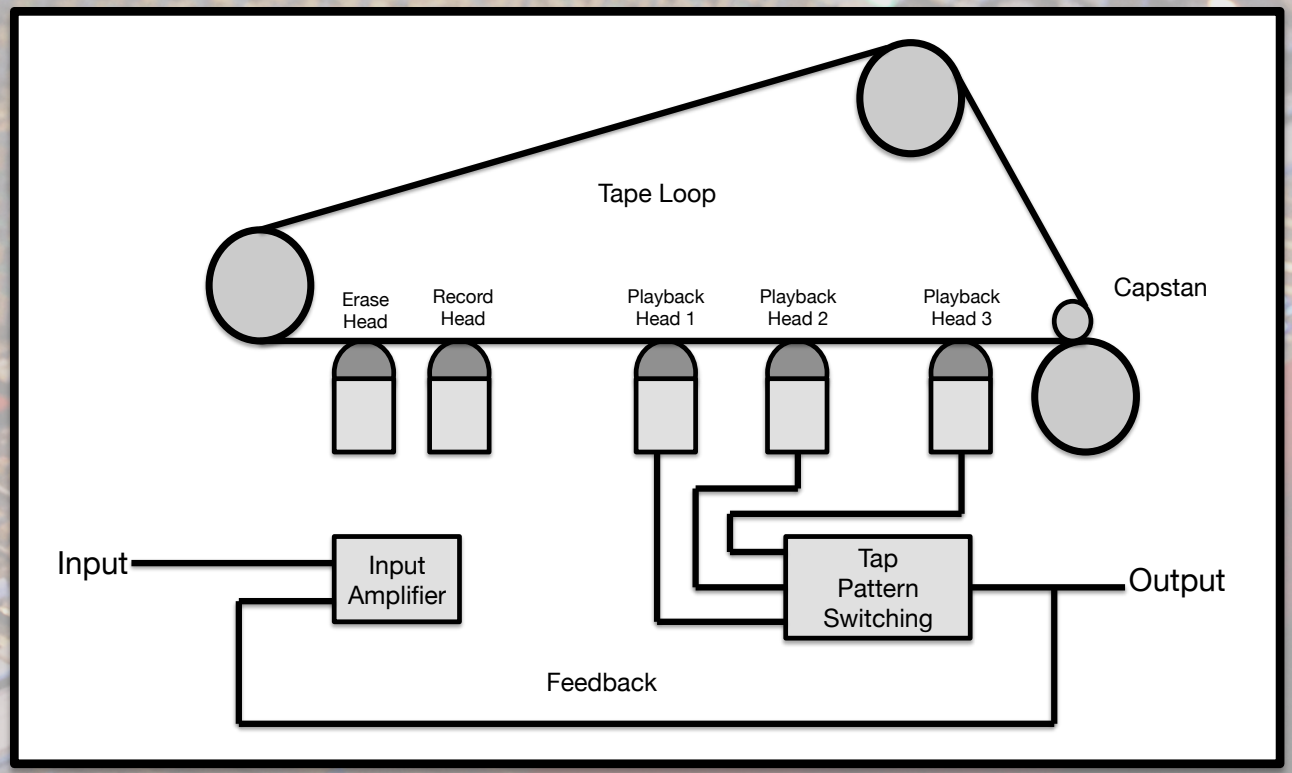
- **Delay** is an effect that creates a repeat of a sound after it has been initially played
- It can be used to create a **doubling echo** or an **automatic double tracking** effect.

Delay Parameters

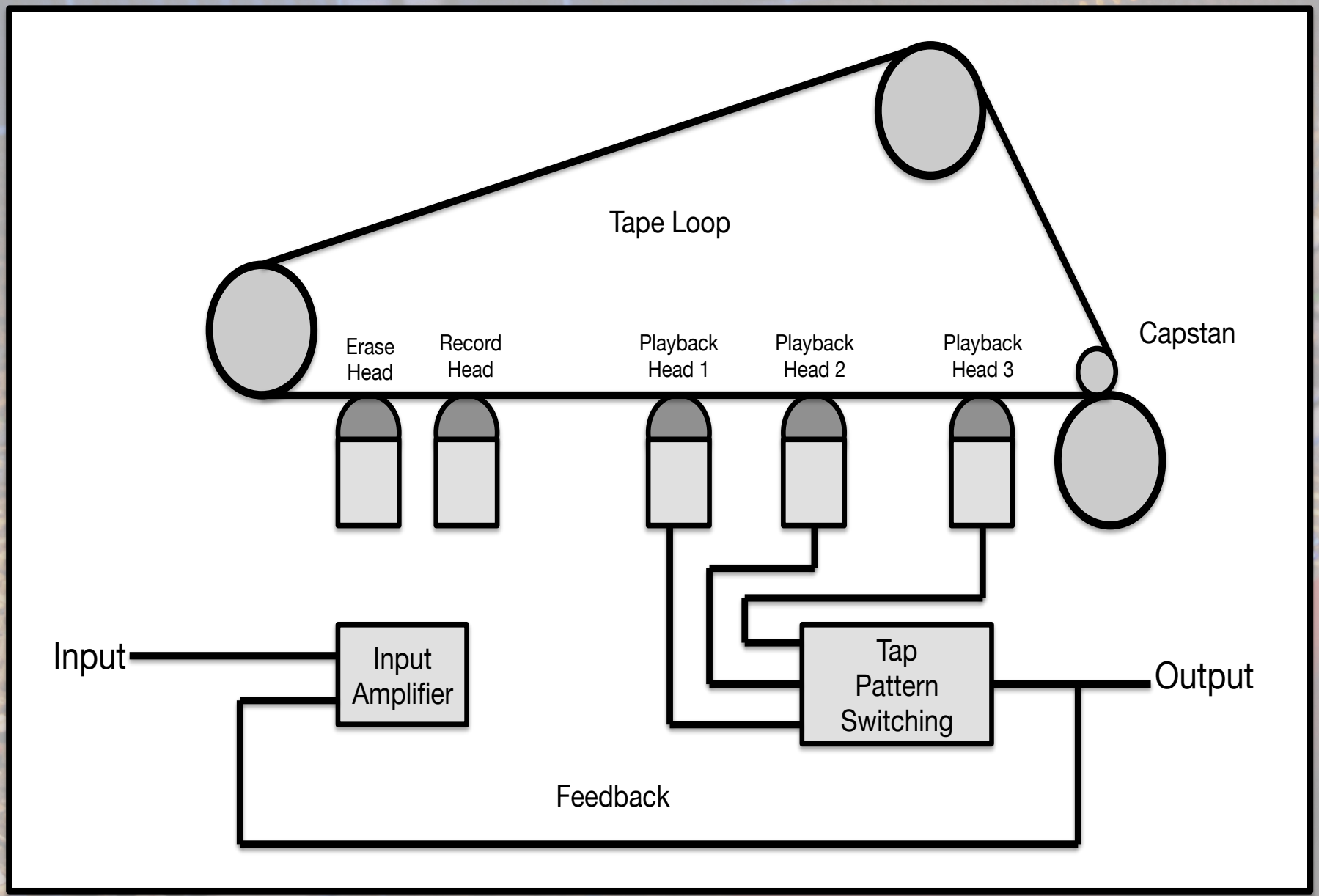
- **Delay time** is the amount of time between the initial sound and the repeat.
- **Feedback** is the amount of the signal that is fed back into the effect. This creates a trail of delays that gradually fades out.

Analogue Tape Delay

- **Analogue** tape delays were first used in the 1970s. **Multiple playback heads** gave **multiple repeats.**



8. Delay Effects



8. Delay Effects

Roland RE-201

Digital Delay Effects

- Modern digital delays are often incorporated as **guitar pedals** or **stompboxes.**
- They allow accurate control of **delay time** and **feedback**, along with a variety of settings e.g. filtering.
- You can also use **multiple instances** of the delay plugin.

8. Delay Effects

Ibanez DE-7 Delay Pedal

8. Delay Effects

Slapback Delay

A single, quick (80-150ms) repeat of the sound at the same volume as the original signal. Often used in rock and roll on guitar and vocals.

Timed Delay

Repeats of the original signal which are synchronised with the tempo of the music to give repeats which are ‘in time’

Stereo Delay

Repeats of the original signal which pan from left to right or move across the stereo field. Sometimes called ‘ping pong’ delay.

8. Delay Effects

Sample Delay

A very short delay, measured in samples, allowing for phase correction or helping to create ADT effects.

Multitap Delay

A digital delay with multiple delay times and repeats, allowing complex rhythms to be built up.

Reverse Delay

The echo or delayed signal is recorded and played backwards; the original recording is then played as normal, but the delay now comes before it.

8. Delay Effects

Doubletracking and ADT

- When an instrument is **doubletracked,** it is **recorded twice**, singing or playing the same thing and **played back simultaneously**. It may sometimes be **panned** to give a stereo spread.
- **Automatic (artificial) double tracking** was first used in the 1960s to reduce the time this takes
- It clones, and then **slightly delays** and **detunes** the original signal, **panning** the original and copy left & right
- This gives **a 'thickening' effect** that is often applied to guitars and vocals

Delay in Other Effects

- **Digital reverb** uses lots of different delays to mirror the reflections of a sound in a room
- **Delay** is commonly used to create **modulation effects** as part of creating the wet signal